

CONSTRUCTION SAND AND GRAVEL

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Construction sand and gravel is one of the most accessible and widely used natural resources. The construction sand and gravel industry is a major contributor to the economic well-being of the Nation and produces a high volume of mineral products with a low unit value. Sand and gravel and crushed stone combined are defined as construction aggregate. The crushed stone industry is reviewed in a companion publication, and both commodities should be included in any review of the National, State, or local aggregates industry.

A total of 1.13 billion metric tons (Gt) of construction sand and gravel was produced in the United States in 2002; this was an increase of about 4 million metric tons (Mt) compared with that of 2001. After a decrease in production in 1991, sand and gravel production increased each year for the following 11 years. (In this report, all data are rounded to three significant digits. Therefore, the slight increase is not discernible in table 1.) Total construction activity increased by just 1% in 2002 and follows gains of 5% in 2001 and 6% in 2000. Total construction in 2002 essentially stabilized close to its 2001 level as the decline in construction contracting continued from the brisk pace of expansion several years ago (Aggregates Manager, 2003a).

In 2002, 6,352 construction sand and gravel operations were active, 1,109 operations were idle, and 722 operations either were reported to be closed or were assumed to be permanently shut down. Of the 6,352 operations, 73 were classified as sales or distribution yards only; a sales yard is defined as a fixed location that receives sand and gravel from a distant source and sells it at the yard. Additionally, 45 operations reported that they were either an open pit or a dredge combined with a sales yard that supplemented local production with material from a remote location. A small number of the idle sand and gravel operations reported the recycling of asphalt and portland cement concrete, but no sand and gravel mining. In 2002, of the 6,352 active operations surveyed, 4,041, or 63.6%, responded to the United States Geological Survey (USGS) canvass. Their total production represented 75% of the 1.13 Gt produced in 2002. The 6,352 operations with 10,336 active sand and gravel pits were owned by 4,026 companies or governmental agencies (tables 10, 11).

Foreign trade of construction sand and gravel remained minor in 2002. Exports increased by about 6% to 3.23 Mt, and the value increased by 23% to \$23.5 million compared with the 2001 results. Imports increased by about 13% to 4.31 Mt, and the value increased by about 32% to \$53.9 million.

Because imports and exports were small, domestic apparent consumption of construction sand and gravel, which is defined as production for consumption (sold or used) plus total imports minus total exports, was essentially equal to the U.S. production of 1.13 Gt.

Production

Of the four major geographic regions, the West again led the Nation in the production of construction sand and gravel with 441 Mt, or 39% of the U.S. total (table 2). It was followed by the Midwest with 338 Mt, or 30%; the South with 245 Mt, or 22%; and the Northeast with 109 Mt, or 10%. Compared with production in 2001, production in 2002 increased in the West but decreased in the other three regions.

Of the nine geographic divisions, the Pacific led the Nation in the production of construction sand and gravel with 231 Mt, or 20.4% of the U.S. total, and was followed by the East North Central with 225 Mt, or 19.8%, and the Mountain with 210 Mt, or 18.6% (table 2; figure 1). Production decreased in six of the nine divisions compared with that of 2001—the Middle Atlantic, 5.8%; the South Atlantic, 4.6%; the New England, 3.8%; the West South Central, 3.2%; the East North Central, 3%; and the East South Central, 2.2%. Production increased in three divisions—the Pacific, 5.5%; the Mountain, 5%; and the West North Central, 2.7%.

A review of the production for consumption by size of operation indicates that about 29% came from 215 operations that reported more than 1 million metric tons per year, 23% came from 421 operations that reported between 500,000 and 999,999 metric tons per year (t/yr), and 37% of the construction sand and gravel produced in 2002 came from 2,023 operations that reported between 100,000 and 499,999 t/yr. The largest number of operations (3,693, or 58% of total operations) produced less than 100,000 t/yr (table 8).

Each year, hundreds of operations are idled, closed, or abandoned, and a similar number are reactivated or opened. The changing location of construction and highway projects is the major stimulus in decisions to open, idle, or close operations.

The estimated production for consumption by quarter for 2002 indicates that 30% of the construction sand and gravel in the United States was produced in the third quarter followed by the second and the fourth quarters (table 3). Estimated production by each quarter was also available for most States (table 4).

In 2002, construction sand and gravel was produced in every State (table 5). The leading States were, in descending order of tonnage, California, Texas, Michigan, Arizona, Ohio, Minnesota, Washington, Colorado, and Wisconsin. Their combined production represented about 51% of the national total. Production increased in 22 States, decreased in 23 States, and was essentially unchanged in 5 States compared with that of 2001. Production increased in six of the top nine States—Arizona, California, Colorado, Michigan,

Minnesota, and Washington; decreases occurred in Ohio and Wisconsin; and production in Texas remained about the same compared with 2001.

In 2002, the leading domestic commercial producers of construction sand and gravel were, in descending order of production, Oldcastle, Inc./Materials Group, Hanson Building Materials America, Inc., Vulcan Materials Co., Rinker Materials Corporation, Martin Marietta Aggregates, MDU Resources Group, Inc./Knife River Corporation, Aggregate Industries, Inc., Cemex, Inc., Lafarge North America, Inc., and Granite Construction Company.

Although the U.S. Department of the Interior's Bureau of Land Management (BLM) was the eighth largest producer in the United States in 2002, it is not included in the rankings with commercial producers. A large percentage of the BLM's production came from Alaska where much of the State land is under Federal management.

Limited information about the production of construction sand and gravel in foreign countries may be found in the USGS Minerals Yearbook, volume III, Area Reports: International. For nonreporting countries, estimates of sand and gravel and crushed stone outputs can be based on indirect indicators, such as the level of cement and asphalt consumption.

Mergers and acquisitions in the construction materials industry declined in 2002 compared with the previous 4 years. Many companies experienced lower-than-expected sales and revenues in 2002 and were hesitant in regards to expansion. Additionally, many owners of privately held companies have taken a cautious attitude regarding selling their businesses to the larger publicly owned companies. Activity was not expected to improve much in 2003 (Aggregates Manager, 2003b). Major changes in ownership in the sand and gravel industry in 2002 are listed below.

In March, MDU Resources, through its Knife River Corp. subsidiary, continued its expansion in Minnesota as it purchased Thorson, Inc., which was a privately owned asphalt and aggregate producer with operations in Minnesota and North Dakota (Aggregate Manager, 2002a). Thorson had five small sand and gravel operations in Minnesota in 2001. In May, Knife River announced the acquisition of Granite City Ready-Mix, Inc. and Granite City Concrete in Minnesota (Pit and Quarry, 2002b). Granite City Ready-Mix produced sand and gravel from four pits in 2001. In June, MDU Resources acquired Buffalo Bituminous, which was a privately held asphalt, grading, and sand and gravel company (Aggregates Manager, 2002b). Buffalo Bituminous operated one sand and gravel operation in 2001. In October, MDU Resources announced the acquisition of Gesell Concrete Products and a sister company Bemidji Blacktop, Inc., which was also in Minnesota; the companies have sand and gravel operations (Aggregates Manager, 2002c). With all these acquisitions, Knife River had 22 operations in Minnesota at yearend 2002.

In May, U.S. Aggregates, Inc. announced that it had received bankruptcy court approval to sell the company's assets to Oldcastle. The transactions included 46 sand and gravel operations located in Arizona, California, Idaho, Nevada, Tennessee, and Utah (Rock Products, 2002a). U.S. Aggregates was the 23d largest producer of sand and gravel in the United States in 2001. Oldcastle was already the largest construction sand and gravel producer in the United States, and this further solidified their hold on that position. At yearend, the company owned 110 sand and gravel operations in the United States.

In July, Rinker Materials announced that it reached an agreement to acquire Kiewit Materials Corporation (Rock Products, 2002b). In 2001, Rinker Materials was the 15th largest producer of sand and gravel, and Kiewit Materials was the 6th largest producer. With this acquisition, Rinker Materials became the fourth largest producer of sand and gravel with 47 operations in the United States.

In September, Aggregate Industries purchased the aggregate and ready-mix business of Wakefield Materials, Inc. in Massachusetts and New Hampshire; the acquisition included three sand and gravel operations (Pit&Quarry, 2002a). Wakefield Materials operated three sand and gravel operations in southern New Hampshire and was the ninth largest producer in the State in 2001. These sand and gravel operations gave Aggregate Industries access to New Hampshire markets for the first time.

Consumption

Construction sand and gravel production reported by producers to the USGS was actually material that was "sold or used" by the companies and is defined as such. Stockpiled production is not reported until it is sold or consumed by the producer. Because no consumption surveys are conducted by the USGS for sand and gravel, the sold or used tonnage is assumed to represent the amount produced for domestic consumption and export. Because some of the construction sand and gravel producers did not report a breakdown by end use, their total production was reported under "Unspecified uses, reported." The estimated production of nonrespondents was reported under "Unspecified uses, estimated."

Of the 1.13 Gt of construction sand and gravel produced in 2002, 53.2% was for unspecified uses (table 6). Of the remaining 529 Mt, 42.2% was used as concrete aggregate; 23.2%, for road base and coverings and road stabilization; 14.5%, for construction fill; 12.4%, for asphaltic concrete aggregate and other bituminous mixtures; 2.5%, for concrete products, such as blocks, bricks, and pipes; 1.3%, for plaster and gunite sands; and the remainder, for filtration, railroad ballast, roofing granules, snow and ice control, and other miscellaneous uses.

To provide an accurate estimate of the consumption patterns for construction sand and gravel, the unspecified uses are not included in the above percentages. In any marketing or use-pattern analysis, the total quantities included in "Unspecified uses" should be distributed among the reported uses by applying the above percentages. Compared with 2001, nearly 5% more of the sand and gravel produced was reported as unspecified uses, and this must be taken into account when analyzing changes in market consumption.

Additional information regarding production and/or consumption of construction sand and gravel by major uses in each State and State districts may be found in the USGS Minerals Yearbook, volume II, Area Reports: Domestic.

Recycling

The aggregates industry has been involved with recycling for several decades. Recycling has become more important to aggregate producers, and the number of aggregates-producing companies that are recycling has been increasing. Recycling in this industry generally refers to the crushing, screening, and reuse of asphalt and cement concretes. Aggregate and related asphalt and ready-mix companies are often involved in construction projects during which they collect and reuse the materials at the site. Some construction companies haul their materials to the recycling location where the asphalt or concrete is processed for reuse. The annual survey of construction sand and gravel producers collects information only on recycling of asphalt and cement concrete by sand-and-gravel-producing companies; no information on recycling of these materials by construction or demolition companies is collected by the USGS.

Asphalt Concrete.—In 2002, 4.67 Mt of asphalt concrete valued at \$21.9 million was recycled by 199 sand and gravel companies in 43 States; this represented a 14% decrease compared with that of 2001 (tables 12, 13). The leading States were, in descending order of tonnage recycled, Minnesota, California, and Michigan. The leading companies were, in order of tonnage produced, J.A. Jones, Inc.; Red Flint Group, LLC; Midwest Asphalt Corp.; and Weber Sand and Gravel, Inc.

Cement Concrete.—In 2002, 6.41 Mt of cement concrete valued at \$35.6 million was recycled by 202 companies in 41 States; this tonnage represented a 4.8% decrease compared with that of 2001 (tables 14, 15). The leading States were, in descending order of tonnage recycled, California, Minnesota, Michigan, and Wisconsin. The leading companies were, in order of quantity produced, Vulcan Materials, Aggregate Industries, Kalin Construction Company, Red Flint Group, and Midwest Asphalt.

Transportation

Information regarding the method of transportation of construction sand and gravel from the pit or processing plant to the first point of sale or use is available for each geographic division and the total United States (table 9). Reports regarding the method of transportation were provided by the producers for 484 Mt, or 43% of the total U.S. production of construction sand and gravel. Of this total, 79.5% was transported by truck; 3.2%, by waterway; and 1%, by rail. A significant amount of construction sand and gravel produced (about 16%) was not transported and was probably used at the production site. Because most producers neither keep records nor report shipping distances or cost per metric ton per mile, transportation cost data are not available.

Prices

Prices in this chapter are free on board (f.o.b.) plant usually at the first point of sale or captive use. This value does not include transportation from the plant or yard to the consumer. It does, however, include all costs of mining, processing, in-plant transportation, overhead, and profit.

The 2002 average unit price increased by about 1% to \$5.07 per metric ton compared with that of 2001 (table 6). By use, the unit prices varied from a high of \$8.51 per ton for roofing granules to a low of \$3.33 per ton for fill. The largest increases were recorded for concrete products (23.1%), snow and ice control (18.3%), and road stabilization (cement) (9.7%). The largest decreases were for filtration (12.9%), railroad ballast (12.1%), and road stabilization (lime) (12%).

Foreign Trade

The widespread distribution of domestic sand and gravel deposits and the high cost of transportation limit foreign trade to mostly local transactions across international boundaries. U.S. imports and exports represented less than 1% of the domestic consumption.

Exports of construction sand increased by about 3% to 2.64 Mt compared with that of 2001, and the value increased by nearly 19% to \$19.2 million (table 16). Mexico, which was the major destination, received about 88% of the total followed by Taiwan with about 5%. Exports of construction gravel increased by about 16% to 596,000 metric tons, and the value increased by about 48% to \$4.23 million (table 16). Canada, which was the major destination, received about 96% of the total. The average value of the sand and gravel exports in 2002 was \$7.24 per ton; this was up from \$6.22 per ton in 2001.

Imports increased by about 13% to 4.31 Mt, and the value increased by about 32% to \$53.9 million (table 17). Canada was the major source of imported construction sand and gravel with 84% of the total followed by Mexico with about 10%. The average value of the sand and gravel imports was \$12.51 per ton; this was up from \$10.68 per ton in 2001.

Outlook

The demand for construction sand and gravel in 2003 is expected to remain about the same as in 2002. State and Federal tax revenues were not sufficient in 2002 to support large spending on public construction projects that typically require large volumes of aggregates. Data from the USGS quarterly survey of aggregates producers also indicate that adverse weather conditions had stalled growth in aggregate demand through the first half of 2003. Most regions of the United States may have increased sales in the second half of 2003 so that overall demand will likely remain close to 2002 levels.

Construction sand and gravel f.o.b. prices are expected to increase only marginally. The delivered prices of construction sand and gravel, however, are expected to increase especially in and near metropolitan areas mainly because more aggregates are transported from distant sources.

For 2003, the industry is expected to continue to consolidate. Resistance to mining, especially at the local level, will push production to rural areas and increase transportation costs. The cost to acquire existing companies will increase because of the difficulty of starting a new operation (greenfield). The length of time that is needed to put a new operation into production has been estimated to be from 5 to 8 years. This includes the time required to prove the reserve base, to receive zoning and permit approvals, and to deliver and install the necessary equipment. Also, throughout the process, the possibility exists that the project may have to be abandoned owing to local opposition and permit or zoning denial. Many companies prefer to buy permitted, active operations with reserves rather than face the cost and uncertainties involved with a greenfield operation.

References Cited

- Aggregates Manager, 2002a, Mergers & acquisitions analysis: Aggregates Manager, v. 7, no. 2, May, p. 14.
Aggregates Manager, 2002b, Mergers & acquisitions analysis: Aggregates Manager, v. 7, no. 5, August, p. 13.
Aggregates Manager, 2002c, Mergers & acquisitions analysis: Aggregates Manager, v. 7, no. 8, November, p. 9.
Aggregates Manager, 2003a, Dodge report: Aggregates Manager, v. 7, no. 12, March, p. 10.
Aggregates Manager, 2003b, Mergers and acquisitions: Aggregates Manager, v. 7, no. 10, January, p. 12.
Pit&Quarry, 2002a, Aggregate Industries buys Wakefield's ready-mix concrete ops, U.S. clears deal: Pit&Quarry, v. 95, no. 4, October, p. 16.
Pit&Quarry, 2002b, Regional roundup: Pit&Quarry, v. 94, no. 13, June, p. 16.
Rock Products, 2002a, CRH to purchase U.S. Aggregates assets: Rock Products, v. 105, no. 4, April, p. 4.
Rock Products, 2002b, Rinker to acquire Kiewit Materials Company: Rock Products, v. 105, no. 8, August, p. 4.

GENERAL SOURCES OF INFORMATION

U.S. Geological Survey Publications

- Crushed Stone and Sand and Gravel. Mineral Industry Surveys, quarterly.
Directory of Principal Crushed Stone Producers. Mineral Industry Surveys, annual.
Directory of Principal Sand and Gravel Producers. Mineral Industry Surveys, annual.
Directory of State Publications Listing Crushed Stone and Sand and Gravel Producers, biennial.
Natural Aggregate—Building America's Future. Circular 1110, 1990.
Natural Aggregates of the conterminous United States. Bulletin 1594, 1988.
Natural Aggregates—Foundation of America's Future. Fact Sheet FS 144-97, 1997.
Sand and Gravel. Ch. in United States Mineral Resources, Professional Paper 820, 1973.
Sand and Gravel, Construction. Ch. in Mineral Commodity Summaries, annual.
Stone, Crushed. Ch. in Mineral Commodity Summaries, annual.
Stone, Crushed. Ch. in Minerals Yearbook, annual.

Other

- Aggregates Handbook. National Stone Association, 1991.
Aggregates Manager.
Aggregates—Sand, Gravel, & Crushed Rock Aggregates for Construction Purposes. The Geological Society, United Kingdom, 1985.
Canadian Aggregates.
Concrete Manual. A Water Resources Publication, U.S. Department of the Interior, Bureau of Reclamation, 1975.
Earth Manual. A Water Resources Publication, U.S. Department of the Interior, Bureau of Reclamation, 1974.
Geology of Nonmetallics. Bates, R.L., and Harben, P.W., Metal Bulletin Inc., 1984.
Handbook of Concrete Aggregates. Dolar-Mantuani, L. Noyes Publications, 1983.
Industrial Minerals.
Pit&Quarry.
Quarry Management.
Rock Products.
Sand and Gravel. Ch. in Industrial Minerals and Rocks, 6th ed., Carr, D.D., ed., Society for Mining, Metallurgy, and Exploration, Inc., 1994.
Stone, Sand & Gravel Review.

TABLE 1
SALIENT U.S.CONSTRUCTION SAND AND GRAVEL STATISTICS¹

(Thousand metric tons and thousand dollars)

	1998	1999	2000	2001	2002
Sold or used by producers:					
Quantity ²	1,070,000	1,110,000	1,120,000	1,130,000	1,130,000
Value ²	4,910,000	5,250,000	5,390,000	5,670,000	5,750,000
Exports, value	37,800	27,900	24,200	19,100	23,400
Imports, value	15,000	24,400	33,300	40,800	53,900

¹Data are rounded to no more than three significant digits.

²Puerto Rico excluded from all sand and gravel statistics.

TABLE 2
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY GEOGRAPHIC DIVISION¹

Region/division	2001				2002			
	Quantity (thousand metric tons)	Percentage of total	Value (thousands)	Percentage of total	Quantity (thousand metric tons)	Percentage of total	Value (thousands)	Percentage of total
Northeast:								
New England	47,200	4.2	\$251,000	4.4	45,400	4.0	\$243,000	4.2
Middle Atlantic	67,800	6.0	385,000	6.8	63,900	5.6	369,000	6.4
Midwest:								
East North Central	232,000	20.5	960,000	16.9	225,000	19.8	939,000	16.3
West North Central	110,000	9.7	404,000	7.1	113,000	10.0	427,000	7.4
South:								
South Atlantic	84,100	7.4	413,000	7.3	80,000	7.1	396,000	6.9
East South Central	45,800	4.1	217,000	3.8	44,800	4.0	220,000	3.8
West South Central	124,000	11.0	592,000	10.4	120,000	10.5	597,000	10.4
West:								
Mountain	200,000	17.7	972,000	17.1	210,000	18.6	1,010,000	17.5
Pacific	219,000	19.4	1,470,000	25.9	231,000	20.4	1,550,000	26.9
Total	1,130,000	100	5,670,000	100	1,130,000	100	5,750,000	100

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3
SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2002, BY QUARTER AND DIVISION¹

Region/division	Quantity, 1st quarter (thousand metric tons)	Percent- age change ²	Quantity, 2d quarter (thousand metric tons)	Percent- age change ²	Quantity, 3d quarter (thousand metric tons)	Percent- age change ²	Quantity, 4th quarter (thousand metric tons)	Percent- age change ²	Total ³	
									Quantity (thousand metric tons)	Value (thousands)
Northeast:										
New England	5,700	(2.8)	15,400	21.2	18,600	15.9	12,200	(3.4)	51,900	\$278,000
Middle Atlantic	8,900	(1.6)	19,700	(1.9)	20,500	(13.1)	13,800	(9.3)	62,900	365,000
Midwest:										
East North Central	25,700	(8.6)	66,500	(1.2)	72,000	(10.2)	52,600	(7.1)	217,000	907,000
West North Central	8,400	(8.8)	33,900	7.8	42,600	1.0	27,400	2.3	112,000	420,000
South:										
South Atlantic	18,400	1.5	22,100	(4.6)	20,900	(5.6)	18,000	(12.9)	79,500	386,000
East South Central	9,800	23.0	14,200	8.9	13,700	6.9	10,700	(10.4)	48,400	235,000
West South Central	28,300	9.7	32,100	(10.3)	28,500	(15.0)	24,400	(14.3)	113,000	555,000
West:										
Mountain	37,000	(12.8)	57,600	6.6	61,000	8.0	50,700	7.6	206,000	1,050,000
Pacific ⁴	43,300	8.9	59,800	9.0	63,200	3.5	53,500	2.8	220,000	1,510,000
Total ³	186,000	(0.4)	322,000	2.8	341,000	(2.0)	263,000	(3.0)	1,120,000 ⁵	5,710,000 ⁵

¹As published in the Crushed Stone and Sand and Gravel in the Fourth Quarter of 2002 Mineral Industry Surveys.

²All percentage changes are calculated by using unrounded totals. Percentage changes are based on the corresponding quarter of the previous year. Negative percentages (decreases) are in parentheses.

³Data may not add to totals shown because of independent rounding and differences between projected totals by States and regions.

⁴Does not include Alaska and Hawaii.

⁵Includes Alaska and Hawaii.

TABLE 4
SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2002, BY QUARTER AND STATE¹

State	Quantity 1st quarter (thousand metric tons)	Percent- age change ²	Quantity 2d quarter (thousand metric tons)	Percent- age change ²	Quantity 3d quarter (thousand metric tons)	Percent- age change ²	Quantity 4th quarter (thousand metric tons)	Percent- age change ²	Total ³	
									Quantity (thousand metric tons)	Value (thousand)
Alabama	3,000	(4.3)	4,200	14.6	3,500	(1.3)	2,700	(14.9)	13,500	\$60,700
Alaska ⁴	--	--	--	--	--	--	--	--	11,500	67,800
Arizona	12,000	(13.8)	12,400	(9.5)	11,300	(14.0)	12,000	(0.8)	47,700	265,000
Arkansas	2,300	13.5	2,800	(10.9)	2,800	(24.1)	2,500	(8.8)	10,400	52,500
California	31,600	9.3	41,900	5.6	45,100	6.5	38,200	0.4	157,000	1,160,000
Colorado	5,600	(10.2)	13,200	33.0	15,400	28.0	10,500	16.0	44,800	236,000
Connecticut	1,100	(14.1)	3,800	69.3	4,200	86.4	2,400	25.7	11,500	68,400
Delaware ⁵	--	--	--	--	--	--	--	--	2,320	13,500
Florida	6,300	7.5	6,900	7.0	6,700	8.0	6,400	1.7	26,300	117,000
Georgia	1,700	2.4	2,000	6.8	1,700	(9.5)	1,400	(17.2)	6,750	28,100
Hawaii ⁴	--	--	--	--	--	--	--	--	500	6,000
Idaho ⁵	--	--	--	--	--	--	--	--	16,900	60,200
Illinois	3,100	(20.7)	8,000	(3.5)	9,600	(34.2)	7,500	(9.0)	28,200	128,000
Indiana	5,700	(5.8)	8,400	(5.2)	7,600	(3.3)	6,500	2.7	28,100	122,000
Iowa	1,300	20.1	4,300	4.8	4,900	(5.2)	3,600	(5.1)	14,200	65,000
Kansas	1,800	8.3	2,600	(14.8)	2,800	(4.5)	2,200	(11.7)	9,450	27,400
Kentucky	1,300	(36.6)	2,600	(2.8)	3,700	35.6	2,400	(5.7)	10,100	41,000
Louisiana ⁵	3,700	19.0	4,600	(14.2)	3,900	(26.3)	3,700	(12.7)	16,000	76,800
Maine	700	(26.3)	2,500	(25.1)	5,100	23.4	2,500	(8.0)	10,900	44,600
Maryland	2,400	2.9	3,000	(15.9)	3,000	(9.0)	2,500	(22.7)	11,000	76,000
Massachusetts	2,300	-0.1	3,600	6.4	4,400	5.4	3,600	(12.2)	13,900	90,600
Michigan	5,600	(14.5)	25,400	4.3	26,200	(1.0)	18,200	(3.6)	75,500	269,000
Minnesota	800	(40.0)	13,800	28.5	19,400	9.1	11,200	13.3	45,300	179,000
Mississippi	2,900	70.4	4,600	16.2	4,200	4.2	3,200	(20.4)	14,900	77,900
Missouri	1,300	(25.2)	2,600	17.5	3,100	(9.7)	2,400	(3.7)	9,480	40,700
Montana	1,700	69.9	6,400	85.9	7,600	21.8	4,500	14.3	20,200	94,300
Nebraska	2,300	29.6	4,100	(4.2)	3,800	(15.4)	2,100	(15.6)	12,300	41,500
Nevada	7,200	(11.4)	8,700	(13.7)	8,700	25.2	7,700	(12.5)	32,300	168,000
New Hampshire	1,000	5.8	2,600	13.0	3,100	(1.5)	2,100	(4.9)	8,830	45,200
New Jersey	2,600	(11.0)	4,600	(9.3)	4,300	(10.4)	3,800	(3.0)	15,400	91,700
New Mexico	2,300	(0.8)	3,000	(2.7)	3,200	12.5	2,700	10.4	11,100	58,500
New York	3,800	8.5	8,900	0.3	10,200	(18.3)	5,800	(3.3)	28,700	152,000
North Carolina	2,600	(13.0)	3,000	(11.2)	2,600	(22.7)	2,100	(20.0)	10,300	52,400
North Dakota ⁴	--	--	--	--	--	--	--	--	10,300	26,700
Ohio	6,200	(0.1)	13,700	(3.9)	16,700	(4.0)	11,500	(8.5)	48,100	249,000
Oklahoma	2,500	11.0	2,900	(6.1)	2,700	(10.2)	2,100	(20.1)	10,200	41,300
Oregon	3,300	29.8	4,900	23.6	6,500	7.0	4,700	1.2	19,500	114,000
Pennsylvania	2,500	(2.5)	6,100	0.7	6,100	(8.2)	4,100	(18.1)	18,700	121,000
Rhode Island ⁵	--	--	--	--	--	--	--	--	1,280	10,100
South Carolina	2,100	(17.3)	2,800	(0.8)	2,500	(13.5)	2,100	(6.3)	9,510	31,200
South Dakota	800	(39.1)	3,200	(9.5)	4,100	2.3	2,500	0.5	10,500	39,500
Tennessee	2,000	67.5	2,400	(10.6)	2,800	14.8	2,500	22.3	9,680	54,900
Texas	19,900	7.1	21,900	(9.8)	19,000	(10.4)	16,100	(14.8)	76,900	384,000
Utah	3,000	(38.9)	9,300	21.9	10,200	17.4	8,100	12.9	30,600	119,000
Vermont	400	35.1	1,600	44.4	1,300	(32.0)	1,000	(23.7)	4,240	18,900
Virginia	2,300	(5.8)	3,200	(10.0)	3,000	(0.4)	2,400	(16.7)	10,800	60,100
Washington	8,200	0.2	13,600	21.9	11,600	(12.8)	10,600	19.7	43,900	238,000
West Virginia	200	8.4	500	(23.9)	500	(1.9)	300	(27.1)	1,560	8,080
Wisconsin	4,000	(9.9)	11,300	(3.2)	11,300	(18.8)	8,800	(23.5)	35,500	139,000
Wyoming	600	(7.7)	2,700	45.4	4,100	53.4	2,100	6.5	9,570	47,600
Total	XX	XX	XX	XX	XX	XX	XX	XX	1,120,000	5,710,000

XX Not applicable. -- Zero.

¹As published in the Crushed Stone and Sand and Gravel in the Fourth Quarter of 2002 Mineral Industry Surveys.

²All percentage changes are calculated by using unrounded totals. Percentage changes are based on the corresponding quarter of the previous year. Negative percentages (decreases) are in parentheses.

³Data may not add to totals shown because of independent rounding and differences between projected totals by States and regions.

⁴State not included in quarterly survey.

⁵Owing to a low number of reporting companies, no production estimates by quarters were generated.

TABLE 5
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY
PRODUCERS IN THE UNITED STATES, BY STATE¹

State	2001			2002		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Alabama	13,600	\$60,200	\$4.42	12,500	\$56,700	\$4.55
Alaska	11,300	65,600	5.79	16,300	93,400	5.73
Arizona	52,900	288,000	5.44	53,800	294,000	5.48
Arkansas	11,600	57,600	4.95	8,810	45,600	5.17
California	149,000	1,080,000	7.28	151,000	1,110,000	7.33
Colorado	37,300	194,000	5.19	40,700	222,000	5.45
Connecticut	7,670	44,700	5.83	8,140	48,800	6.00
Delaware	3,370	19,300	5.73	2,190	17,300	7.90
Florida	24,800	109,000	4.38	26,400	114,000	4.29
Georgia	7,060	28,800	4.08	6,600	27,200	4.13
Hawaii	534	6,270	11.74	610	7,010	11.48
Idaho	15,000	52,400	3.50	15,700	57,700	3.67
Illinois	35,000	156,000	4.45	32,000	146,000	4.57
Indiana	29,000	124,000	4.27	27,600	122,000	4.42
Iowa	14,200	63,800	4.50	14,600	62,300	4.26
Kansas	10,200	29,100	2.84	9,560	28,700	3.00
Kentucky	10,100	40,400	3.99	9,530	37,900	3.98
Louisiana	18,100	85,100	4.71	17,900	96,800	5.40
Maine	11,200	44,900	4.03	9,680	40,400	4.18
Maryland	12,500	84,800	6.81	12,200	83,500	6.82
Massachusetts	14,000	89,300	6.37	12,200	75,300	6.18
Michigan	76,300	266,000	3.49	77,300	267,000	3.45
Minnesota	39,800	155,000	3.88	43,700	175,000	3.99
Mississippi	13,700	70,100	5.13	13,600	73,200	5.37
Missouri	10,900	45,800	4.21	10,000	42,300	4.22
Montana	14,600	67,200	4.59	16,700	76,000	4.54
Nebraska	13,000	43,000	3.31	12,900	44,200	3.42
Nevada	34,000	173,000	5.09	35,400	159,000	4.50
New Hampshire	8,630	43,300	5.02	8,640	41,600	4.82
New Jersey	16,800	98,000	5.84	16,000	96,300	6.00
New Mexico	10,600	54,500	5.17	12,800	62,600	4.87
New York	30,900	160,000	5.17	29,800	158,000	5.30
North Carolina	12,400	61,500	4.97	10,000	50,700	5.04
North Dakota	10,300	26,300	2.54	10,700	27,900	2.62
Ohio	50,400	256,000	5.07	48,700	250,000	5.14
Oklahoma	11,000	43,700	3.96	10,200	41,300	4.04
Oregon	17,300	99,200	5.72	19,500	116,000	5.94
Pennsylvania	20,200	128,000	6.33	18,100	115,000	6.38
Rhode Island	1,200	9,220	7.67	1,760	14,100	8.03
South Carolina	10,500	36,900	3.52	10,300	35,500	3.45
South Dakota	11,200	41,500	3.70	11,900	47,500	4.00
Tennessee	8,350	46,400	5.56	9,220	51,900	5.63
Texas	82,900	405,000	4.89	82,600	413,000	5.01
Utah	28,400	109,000	3.83	27,600	104,000	3.79
Vermont	4,570	20,000	4.37	4,990	22,200	4.45
Virginia	11,800	64,400	5.46	10,500	60,000	5.71
Washington	41,400	220,000	5.32	43,200	223,000	5.16
West Virginia	1,820	9,260	5.09	1,700	8,450	4.96
Wisconsin	41,600	159,000	3.82	39,000	154,000	3.94
Wyoming	7,200	35,100	4.87	7,710	32,100	4.16
Total	1,130,000	5,670,000	5.02	1,130,000	5,750,000	5.07

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 6
CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN THE UNITED STATES IN 2002,
BY MAJOR USE¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregates (including concrete sand)	223,000	\$1,290,000	\$5.80
Plaster and gunite sands	6,720	44,700	6.65
Concrete products (blocks, bricks, pipe, decorative, etc.)	13,200	103,000	7.78
Asphaltic concrete aggregates and other bituminous mixtures	65,500	402,000	6.14
Road base and coverings	118,000	546,000	4.61
Road stabilization, cement	3,140	17,700	5.65
Road stabilization, lime	1,750	8,050	4.60
Fill	76,900	256,000	3.33
Snow and ice control	4,720	25,000	5.30
Railroad ballast	509	3,090	6.08
Roofing granules	183	1,560	8.51
Filtration	387	2,680	6.93
Other miscellaneous uses	17,100	113,000	6.61
Unspecified: ²			
Actual	318,000	1,610,000	5.06
Estimated	283,000	1,320,000	4.67
Grand total	1,130,000	5,750,000	5.07

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Reported and estimated production without a breakdown by end use.

TABLE 7
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2002,
BY GEOGRAPHIC DIVISION AND MAJOR USE¹

(Thousand metric tons and thousand dollars)

Region/division	Concrete aggregates (including concrete sand)		Plaster and guniting sands		Concrete products (blocks, bricks, pipe decorative, etc.)		Asphaltic concrete aggregates and other bituminous mixtures		Road base and coverings ²	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Northeast:										
New England	5,170	35,000	144	1,270	324	2,470	1,990	12,900	4,220	20,600
Middle Atlantic	10,800	72,500	407	2,620	804	6,160	4,920	28,300	4,970	23,000
Midwest:										
East North Central	40,500	180,000	601	3,910	2,440	12,700	12,000	56,600	21,600	91,300
West North Central	22,400	108,000	947	4,400	721	5,740	7,050	29,000	22,000	65,900
South:										
South Atlantic	30,500	172,000	1,200	5,690	1,650	8,220	2,690	11,600	1,290	4,300
East South Central	9,830	50,800	462	3,330	278	1,750	2,600	15,300	2,060	9,760
West South Central	38,200	210,000	343	2,540	563	2,560	2,200	12,700	5,240	33,700
West:										
Mountain	21,700	123,000	1,290	8,980	1,240	8,860	9,880	65,200	33,800	150,000
Pacific	44,300	343,000	1,330	12,000	5,200	54,300	22,200	171,000	28,200	173,000
Total	223,000	1,290,000	6,720	44,700	13,200	103,000	65,500	402,000	123,000	571,000
Region/division	Fill		Snow and ice control		Railroad ballast		Other uses		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Northeast:										
New England	3,280	11,600	1,140	6,440	23	91	29,100	152,000	45,400	243,000
Middle Atlantic	5,440	25,100	1,040	4,390	32	189	35,500	207,000	63,900	369,000
Midwest:										
East North Central	19,400	58,600	W	W	W	W	127,000	531,000	225,000	939,000
West North Central	7,560	15,700	491	2,530	12	50	52,300	196,000	113,000	427,000
South:										
South Atlantic	7,420	17,700	67	323	--	--	35,200	176,000	80,000	396,000
East South Central	744	2,720	W	W	W	W	28,800	136,000	44,800	220,000
West South Central	9,990	22,400	W	W	W	W	62,800	310,000	120,000	597,000
West:										
Mountain	7,330	25,600	428	2,930	150	852	135,000	623,000	210,000	1,010,000
Pacific	15,700	76,600	245	1,410	176	1,020	113,000	714,000	231,000	1,550,000
Grand total	76,900	256,000	4,720	25,000	508	3,090	619,000	3,050,000	1,130,000	5,750,000

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes road and other stabilization (cement and lime).

TABLE 8A
CONSTRUCTION SAND AND GRAVEL PRODUCTION IN THE UNITED STATES
IN 2002, BY REGION AND SIZE OF OPERATION¹

Size range (metric tons)	U.S. total			
	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total
Less than 25,000	1,593	25.1	15,000	1.3
25,000 to 49,999	962	15.1	32,000	2.8
50,000 to 99,999	1,138	17.9	74,100	6.5
100,000 to 199,999	980	15.4	127,000	11.2
200,000 to 299,999	534	8.4	118,000	10.4
300,000 to 399,999	324	5.1	102,000	9.0
400,000 to 499,999	185	2.9	74,500	6.6
500,000 to 599,999	139	2.2	68,800	6.1
600,000 to 699,999	97	1.5	57,300	5.1
700,000 to 799,999	88	1.4	60,000	5.3
800,000 to 899,999	62	1.0	47,600	4.2
900,000 to 999,999	35	0.6	30,200	2.7
1,000,000 to 1,499,999	125	2.0	136,000	12.0
1,500,000 to 1,999,999	44	0.7	67,800	6.0
2,000,000 to 2,499,999	22	0.3	44,500	3.9
2,500,000 to 4,999,999	22	0.3	63,100	5.6
5,000,000 and more	2	--	16,000	1.4
Total	6,352	100	1,130,000	100

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 8B
CONSTRUCTION SAND AND GRAVEL PRODUCTION IN THE UNITED STATES IN 2002, BY REGION AND SIZE OF OPERATION¹

Size range (metric tons)	Northeast				Midwest			
	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total
Less than 25,000	350	33.1	3,270	3.0	522	23.5	5,190	1.5
25,000 to 49,999	172	16.3	5,760	5.3	373	16.8	12,300	3.7
50,000 to 99,999	189	17.9	12,100	11.0	437	19.6	28,600	8.5
100,000 to 199,999	156	14.8	19,800	18.1	344	15.5	44,500	13.2
200,000 to 299,999	93	8.8	20,500	18.7	194	8.7	42,400	12.5
300,000 to 399,999	37	3.5	11,900	10.9	110	4.9	34,300	10.1
400,000 to 499,999	24	2.3	9,790	9.0	62	2.8	24,700	7.3
500,000 to 599,999	13	1.2	6,380	5.8	48	2.2	23,900	7.1
600,000 to 699,999	8	0.8	4,610	4.2	31	1.4	18,400	5.4
700,000 to 799,999	5	0.5	3,290	3.0	34	1.5	23,000	6.8
800,000 to 899,999	1	0.1	771	0.7	18	0.8	13,900	4.1
900,000 to 999,999	2	0.2	1,720	1.6	12	0.5	10,300	3.0
1,000,000 to 1,499,999	4	0.4	4,090	3.7	24	1.1	25,200	7.4
1,500,000 to 1,999,999	2	0.2	3,170	2.9	10	0.4	15,700	4.6
2,000,000 to 2,499,999	1	0.1	2,250	2.1	4	0.2	8,300	2.5
2,500,000 to 4,999,999	--	--	--	--	3	0.1	7,360	2.2
5,000,000 and more	--	--	--	--	--	--	--	--
Total	1,057	100	109,000	100	2,226	100	338,000	100

Size range (metric tons)	South				West			
	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total
Less than 25,000	224	19.3	2,230	0.9	497	26.0	4,280	1.0
25,000 to 49,999	148	12.8	5,010	2.0	269	14.1	8,860	2.0
50,000 to 99,999	212	18.3	13,800	5.7	300	15.7	19,600	4.4
100,000 to 199,999	198	17.1	26,000	10.6	282	14.8	36,400	8.3
200,000 to 299,999	98	8.4	21,700	8.9	149	7.8	33,500	7.6
300,000 to 399,999	74	6.4	23,100	9.5	103	5.4	32,500	7.4
400,000 to 499,999	45	3.9	18,200	7.4	54	2.8	21,800	4.9
500,000 to 599,999	37	3.2	18,200	7.4	41	2.1	20,300	4.6
600,000 to 699,999	28	2.4	16,600	6.8	30	1.6	17,700	4.0
700,000 to 799,999	20	1.7	13,700	5.6	29	1.5	20,000	4.5
800,000 to 899,999	16	1.4	12,100	4.9	27	1.4	20,900	4.7
900,000 to 999,999	11	0.9	9,430	3.9	10	0.5	8,760	2.0
1,000,000 to 1,499,999	34	2.9	37,400	15.3	63	3.3	68,900	15.6
1,500,000 to 1,999,999	10	0.9	15,500	6.4	22	1.2	33,400	7.6
2,000,000 to 2,499,999	3	0.3	5,640	2.3	14	0.7	28,300	6.4
2,500,000 to 4,999,999	2	0.2	5,780	2.4	17	0.9	50,000	11.3
5,000,000 and more	--	--	--	--	2	0.1	16,000	3.6
Total	1,160	100	244,000	100	1,909	100	441,000	100

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 9
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE
UNITED STATES IN 2002, BY REGION AND METHOD OF TRANSPORTATION¹

(Thousand metric tons)

Region/division	Truck	Rail	Water	Other	Not transported	Not specified	Total
Northeast:							
New England	12,000	--	--	--	3,370	30,000	45,400
Middle Atlantic	21,300	17	1,220	7	5,130	36,200	63,900
Midwest:							
East North Central	80,900	122	4,650	--	12,300	127,000	225,000
West North Central	40,800	116	3,430	3	11,600	57,500	113,000
South:							
South Atlantic	38,100	287	101	24	2,760	38,700	80,000
East South Central	12,900	37	1,160	347	1,580	28,800	44,800
West South Central	40,600	1,980	18	--	9,350	67,500	120,000
West:							
Mountain	52,000	428	--	45	9,100	149,000	210,000
Pacific	86,700	1,690	4,730	22	23,500	114,000	231,000
Grand total	385,000	4,680	15,300	448	78,700	649,000	1,130,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 10
NUMBER OF CONSTRUCTION SAND AND GRAVEL OPERATIONS AND PROCESSING PLANTS
IN THE UNITED STATES IN 2002, BY GEOGRAPHIC DIVISION

Region/division	Mining operations on land			Dredging operations	Total active operations
	Stationary	Portable	Stationary and portable		
Northeast:					
New England	197	218	44	33	493
Middle Atlantic	182	241	56	56	564
Midwest:					
East North Central	457	486	85	115	1,243
West North Central	210	427	32	72	983
South:					
South Atlantic	123	58	12	68	375
East South Central	127	37	6	13	242
West South Central	224	101	21	81	543
West:					
Mountain	354	575	98	138	1,185
Pacific ¹	329	230	69	69	724
Grand total	2,203	2,373	423	645	6,352

¹An undetermined number of operations leased from the Bureau of Land Management in Alaska are counted as one operation.

TABLE 11
NUMBER OF CONSTRUCTION SAND AND GRAVEL OPERATIONS AND PROCESSING PLANTS
IN THE UNITED STATES IN 2002, BY STATE

State	Mining operations on land				Dredging operations	Total active operations
	Stationary	Portable	Stationary and portable	No plants or unspecified		
Alabama	47	14	--	4	17	82
Alaska ¹	20	11	4	6	4	45
Arizona	74	79	25	16	6	200
Arkansas	34	13	2	7	6	62
California	199	92	32	28	11	362
Colorado	81	123	21	17	7	249
Connecticut	34	24	11	3	--	72
Delaware	3	1	--	1	3	8
Florida	15	5	--	3	40	63
Georgia	13	2	--	2	26	43
Hawaii	1	2	--	--	--	3
Idaho	31	71	5	29	5	141
Illinois	56	36	11	10	41	154
Indiana	86	25	17	4	23	155
Iowa	43	70	3	6	36	158
Kansas	17	32	--	12	57	118
Kentucky	11	3	3	1	10	28
Louisiana	16	15	--	12	59	102
Maine	48	68	7	14	1	138
Maryland	19	7	4	11	2	43
Massachusetts	64	31	10	4	--	109
Michigan	133	188	34	40	9	404
Minnesota	58	157	16	20	6	257
Mississippi	46	9	1	6	21	83
Missouri	31	9	3	2	32	77
Montana	54	66	10	21	--	151
Nebraska	12	19	2	6	109	148
Nevada	28	55	14	9	--	106
New Hampshire	24	37	11	3	--	75
New Jersey	30	9	7	1	13	60
New Mexico	32	47	8	20	--	107
New York	92	194	33	46	9	374
North Carolina	25	23	4	24	14	90
North Dakota	22	58	4	1	--	85
Ohio	114	45	11	23	23	216
Oklahoma	21	6	4	18	33	82
Oregon	34	34	10	16	5	99
Pennsylvania	60	38	16	9	7	130
Rhode Island	8	4	1	1	--	14
South Carolina	16	6	--	11	16	49
South Dakota	27	82	4	25	2	140
Tennessee	23	11	2	2	11	49
Texas	153	67	15	44	18	297
Utah	40	83	11	11	--	145
Vermont	19	54	4	8	--	85
Virginia	23	9	4	14	10	60
Washington	75	91	23	19	7	215
West Virginia	9	5	--	2	3	19
Wisconsin	68	192	12	38	4	314
Wyoming	14	51	4	15	2	86
Total	2,203	2,373	423	645	708	6,352

-- Zero.

¹An undetermined number of operations leased from the Bureau of Land Management in Alaska are counted as one operation.

TABLE 12
RECYCLED ASPHALT CONCRETE SOLD OR USED BY PRODUCERS
IN THE UNITED STATES, BY REGION¹

Region/division	2001			2002		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Northeast:						
New England	293	\$1,660	\$5.68	313	\$1,440	\$4.60
Middle Atlantic	62	380	6.13	136	682	5.01
Midwest:						
East North Central	1,380	6,100	4.43	794	3,790	4.77
West North Central	1,220	5,390	4.41	1,210	5,950	4.92
South:						
South Atlantic	599	2,260	3.77	566	2,950	5.21
East South Central	214	756	3.53	119	396	3.33
West South Central	--	--	--	70	285	4.07
West:						
Mountain	556	2,800	5.03	394	1,240	3.15
Pacific ²	1,130	6,190	5.46	1,070	5,200	4.88
Grand total	5,460	25,500	4.68	4,670	21,900	4.69

-- Zero.

¹Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

²Includes Alaska.

TABLE 13
RECYCLED ASPHALT SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE¹

State	2001			2002		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Alabama	--	--	--	1	\$6	\$6.00
Alaska	148	\$852	\$5.76	33	207	6.27
Arizona	13 ^r	74 ^r	5.69	142	164	1.15
California	740	3,830	5.18	681	3,080	4.52
Colorado	140	824	5.89	96	462	4.81
Connecticut	2 ^r	8 ^r	4.00	11	24	2.18
Delaware	--	--	--	32	340	10.63
Florida	--	--	--	1	8	8.00
Georgia	82 ^r	383 ^r	4.67	17	132	7.76
Idaho	67	120	1.79	74	144	1.95
Illinois	45	222	4.93	37	175	4.73
Indiana	214	939	4.39	14	58	4.14
Iowa	31	164	5.29	20	123	6.15
Kansas	53	287	5.42	71	597	8.41
Louisiana	--	--	--	23	75	3.26
Maine	139	603	4.34	120	485	4.04
Maryland	40 ^r	81 ^r	2.03	27	96	3.56
Massachusetts	113	727	6.43	127	730	5.75
Michigan	449	1,080	2.40	392	1,250	3.18
Minnesota	1,070	4,420	4.13	1,010	4,570	4.51
Mississippi	109	360	3.30	27	90	3.33
Montana	31	180	5.81	30	234	7.80
Nevada	31	168	5.42	17	80	4.71
New Hampshire	3	16	5.33	47	164	3.49
New Jersey	54	308	5.70	82	424	5.17
New Mexico	238	1,250	5.24	7	45	6.43
New York	7	71	10.14	55	258	4.69
North Carolina	255	992	3.89	335	1,490	4.43
North Dakota	22 ^r	142 ^r	6.45	17	93	5.47
Ohio	238	1,200	5.03	11	39	3.55
Oklahoma	--	--	--	48	210	4.38
Oregon	94	680	7.23	178	1,220	6.88
Pennsylvania	--	--	--	(2)	1	6.11
Rhode Island	25 ^r	241 ^r	9.64	5	25	5.00
South Carolina	113	568	5.03	152	856	5.63
South Dakota	50	383	7.66	89	568	6.38
Tennessee	105	396	3.77	91	300	3.30
Utah	22 ^r	110 ^r	5.00	16	72	4.50
Vermont	12	68	5.67	5	13	2.60
Virginia	109	237	2.17	3	30	10.00
Washington	152	827	5.44	174	696	4.00
Wisconsin	431	2,660	6.18	341	2,270	6.65
Wyoming	15	75	5.00	13	42	3.23
Total	5,460	25,500	4.68	4,670	21,900	4.69

^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Less than 1/2 unit.

TABLE 14
RECYCLED CEMENT CONCRETE SOLD OR USED BY PRODUCERS
IN THE UNITED STATES, BY REGION¹

Region/division	2001			2002		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Northeast:						
New England	266	\$1,450	\$5.45	299	\$1,620	\$5.42
Middle Atlantic	326	1,880	5.75	386	2,410	6.24
Midwest:						
East North Central	1,680	8,420	5.01	1,330	6,660	5.01
West North Central	1,530	6,920	4.51	1,390	6,470	4.64
South:						
South Atlantic	435	2,180	5.01	303	2,330	7.70
East South Central	--	--	--	45	150	3.33
West South Central	9	127	14.11	259	1,610	6.23
West:						
Mountain	538	2,650	4.93	434	1,890	4.35
Pacific ²	1,940	10,300	5.32	1,960	12,500	6.37
Grand total	6,730	34,000	5.04	6,410	35,600	5.56

-- Zero.

¹Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

²Includes Hawaii.

TABLE 15
RECYCLED CONCRETE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE¹

State	2001			2002		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Alaska	25 ^r	\$188 ^r	\$7.52	20	\$112	\$5.60
Arizona	--	--	--	39	193	4.95
California	1,750	9,260	5.28	1,760	11,300	6.43
Colorado	164	967	5.90	34	139	4.09
Connecticut	6	21	3.50	14	87	6.21
Delaware	--	--	--	38	408	10.74
Florida	16 ^r	173 ^r	10.81	39	389	9.97
Georgia	295 ^r	1,380 ^r	4.68	--	--	--
Hawaii	5	31	6.20	5	33	6.60
Idaho	12 ^r	42 ^r	3.50	1	7	7.00
Illinois	314	1,780	5.67	339	2,180	6.43
Indiana	249	1,090	4.39	111	476	4.29
Iowa	70	457	6.53	121	739	6.11
Kansas	12 ^r	38 ^r	3.17	16	109	6.81
Louisiana	--	--	--	194	1,060	5.48
Maine	45	228	5.07	23	127	5.52
Maryland	41 ^r	86 ^r	2.10	109	765	7.02
Massachusetts	161	869	5.40	237	1,330	5.60
Michigan	528	2,620	4.96	442	1,800	4.08
Minnesota	1,170	5,170	4.41	1,030	4,600	4.48
Mississippi	--	--	--	45	150	3.33
Montana	31	180	5.81	24	166	6.92
Nevada	28 ^r	78 ^r	2.79	81	213	2.63
New Hampshire	2	11	5.50	15	41	2.73
New Jersey	89	587	6.60	141	767	5.44
New Mexico	242	1,060	4.37	206	982	4.77
New York	238	1,290	5.42	242	1,620	6.69
North Carolina	53	321	6.06	71	527	7.42
North Dakota	--	--	--	3	23	7.67
Ohio	279	1,480	5.31	82	521	6.35
Oregon	33	132	4.00	28	159	5.68
Pennsylvania	--	--	--	3	21	7.00
Rhode Island	46	305	6.63	5	25	5.00
South Carolina	31	220	7.10	41	238	5.80
South Dakota	280	1,250	4.48	227	996	4.39
Texas	9	127	14.11	65	550	8.46
Utah	63	328	5.21	34	112	3.29
Vermont	6	16	2.67	5	13	2.60
Virginia	--	--	--	4	6	1.50
Washington	130	734	5.65	149	888	5.96
Wisconsin	310	1,440	4.66	356	1,680	4.71
Wyoming	--	--	--	15	76	5.07
Total	6,740	34,000	5.04	6,410	35,600	5.55

^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

TABLE 16

U.S. EXPORTS OF CONSTRUCTION SAND AND GRAVEL IN 2002, BY COUNTRY¹

(Thousand metric tons and thousand dollars)

Country or Territory	Sand		Gravel	
	Quantity	Free alongside ship value ²	Quantity	Free alongside ship value ²
North America:				
Barbados	3	62	--	--
Belize	2	15	--	--
Canada	63	4,440	571	3,210
Guatemala	1	178	4	151
Mexico	2,310	5,050	4	101
Turks and Caicos Island	--	--	8	275
Other ³	4	271	2	91
Total	2,390	10,000	589	3,830
South America:				
Brazil	11	230	--	--
Colombia	4	78	--	--
Peru	3	326	--	--
Venezuela	9	441	--	--
Other ⁴	1	386	(5)	20
Total	28	1,460	(5)	20
Europe:				
Belgium	39	407	(5)	9
Sweden	3	160	--	--
United Kingdom	2	677	2	123
Other ⁶	5	1,450	3	187
Total	49	2,690	5	319
Asia:				
China	3	361	--	--
Korea, Republic of	4	346	--	--
Taiwan	137	2,490	(5)	12
Other ⁷	2	815	1	32
Total	146	4,010	1	44
Oceania, other ⁸	(5)	35	(5)	14
Middle East, other ⁹	24	375	--	--
Africa, other ¹⁰	9	655	--	--
Grand total	2,640	19,200	596	4,230

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.²Value of material at U.S. port of export; based on transaction price, including all charges incurred in placing material alongside ship.³Includes Antigua and Barbuda, the Bahamas, Bermuda, the British Virgin Islands, the Cayman Islands, Costa Rica, Cuba, the Dominican Republic, El Salvador, Haiti, the Honduras, Jamaica, Panama, and Trinidad and Tobago.⁴Includes Argentina, Chile, Ecuador, Guyana, Suriname, and Uruguay.⁵Less than 1/2 unit.⁶Includes Croatia, France, Germany, Iceland, Ireland, Italy, Latvia, Monaco, the Netherlands, Norway, Poland, Portugal, Russia, and Spain.⁷Includes Brunei, Hong Kong, India, Indonesia, Japan, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.⁸Includes Australia.⁹Includes Israel, Kuwait, the United Arab Emirates, and Yemen (Sana).¹⁰Includes Algeria, Angola, Cameroon, Chad, Egypt, Gabon, Ghana, Nigeria, St. Helena, and Tunisia.

Source: U.S. Census Bureau.

TABLE 17

U.S. IMPORTS FOR CONSUMPTION OF CONSTRUCTION SAND AND GRAVEL, BY COUNTRY¹

(Thousand metric tons and thousand dollars)

Country or Territory	2001		2002	
	Quantity	Cost, insurance and freight value ²	Quantity	Cost, insurance and freight value ²
Antigua and Barbuda	67	635	54	655
Australia	25	1,540	22	1,670
Bahamas, The	59	154	59	910
Canada	2,730	24,100	3,600	37,600
China	24	1,590	37	2,720
Dominica	21	392	28	445
Dominican Republic	22	328	--	--
France	8	481	13	385
Japan	20	784	10	2,740
Mexico	782	4,730	448	3,260
Philippines	(3)	122	17	142
Suriname	34	332	--	--
Other ⁴	29	5,570	24	3,390
Total	3,820	40,800	4,310	53,900

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.²Value of material at U.S. port of entry; based on purchase price and includes all charges (except U.S. import duties) in bringing material from foreign country to alongside carrier.³Less than 1/2 unit.⁴Includes Angola (2001), Belgium, Brazil (2002), the British Virgin Islands (2001), Chile (2001), Denmark, Germany, Haiti, Hong Kong, India, Indonesia, Israel (2002), Italy, the Republic of Korea (2002), Malaysia, the Netherlands (2002), the Netherlands Antilles (2001), New Zealand, Norway, Peru (2001), Poland (2001), Portugal (2001), Singapore (2001), South Africa, Spain, Sweden, Switzerland, Taiwan, Turkey (2001), and the United Kingdom.

Source: U.S. Census Bureau.

FIGURE 1
PRODUCTION OF CONSTRUCTION SAND AND GRVEL IN THE UNITED STATES IN 2002, BY GEOGRAPHIC DIVISION

